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EXAMINER

CANNING, ANTHONY J

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

8m

Office Action Summary

Application No.

10/603,934

Applicant(s)

IKEYA ET AL.

Examiner

Anthony J. Canning

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9 and 11-38 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9 and 11-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Acknowledgement of Amendment

1. The amendment to this application was received and entered on 28 February 2005.

Allowable Subject Matter

2. The indicated allowability of claims 5, 7, 12, and 14 is withdrawn in view of the newly discovered references to Maeda et al. and case law *In re Leshin*, 125 USPQ 416. Rejections based on the newly cited references follow.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 4, 11, 19, 20, 24, 26, and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner understands a center of gravity to mean the point in or near a body at which the gravitational potential energy of the body is equal to that of a single particle of the same mass. The only way the examiner understands that two positioning marks, on substrates positioned one on top of the other, to have the same center of gravity is if the positioning marks fit into each other, like a lock and key. This configuration would cause the positioning marks to overlap.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 5, 6, 15, 16, 21- 23, 25, 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Maeda et al. (U.S. 5,876,884).

7. Regarding claim 1, Maeda et al. disclose a display panel comprising: a first substrate (see Fig. 1, item 15; column 1, lines 34-36) with transparent display electrodes (see Fig. 1, item 16; column 1, lines 34-36) disposed for forming display cells within a display area; a second substrate (see Fig. 1, item 11; column 1, lines 16-18) disposed separately from and opposite to the first substrate (see Fig. 1, items 11 and 15) and formed with partition walls for forming sections of the display cells within the display area (see Fig. 1, item 14; column 1, lines 24-32); a first positioning mark disposed in at least two or more positions outside the display area of the first substrate (see Fig. 10, item 16 A; column 7, lines 30-34); and a second positioning mark disposed in at least two or more positions outside the display area of the second substrate (see Fig. 12, item 12A; column 8, lines 58-61), wherein the first positioning marks and the second positioning marks are disposed so that the positional relation between the transparent electrodes and the partition walls can directly be recognized (column 1, lines 62-67; column 2, lines 1-6). The alignment marks are capable of positioning the substrates, and the electrodes and barrier ribs. Maeda et al. also disclose that when the transparent electrodes and the partition walls are properly positioned, a combination of the first positioning mark and the second positioning

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marks form a predetermined figure (see Fig. 10, item 16A; see Fig. 12, item 12A). The positioning marks for a predetermined figure of a rectangular viewing area, as seen in figures 10 and 12.

8. Regarding claim 2, Maeda et al. disclose a display panel according to claim 1, wherein the first positioning mark and the second positioning mark are disposed respectively at four corner positions of the first substrate and the second substrate in a manner opposite to each other (see Fig. 10, item 16A; see Fig. 12, item 12A).

9. Regarding claim 5, Maeda et al. disclose a display panel including: a first substrate (see Fig. 1, item 15; column 1, lines 34-36) with transparent display electrodes (see Fig. 1, item 16; column 1, lines 34-36) disposed for forming display cells within a display area; a second substrate (see Fig. 1, item 11; column 1, lines 16-18) disposed separately from and opposite to the first substrate (see Fig. 1, items 11 and 15) and formed with partition walls for forming sections of the display cells within the display area (see Fig. 1, item 14; column 1, lines 24-32); a first positioning mark disposed in at least two or more positions outside the display area of the first substrate (see Fig. 10, item 16 A; column 7, lines 30-34); a second positioning mark disposed in at least two or more positions outside the display area of the second substrate (see Fig. 12, item 12A; column 8, lines 58-61), wherein the first positioning marks and the second positioning marks are disposed so that the positional relation between the transparent electrodes and the partition walls can directly be recognized (column 1, lines 62-67; column 2, lines 1-6). The alignment marks help position the substrates, and therefore the electrodes and barrier ribs. Maeda et al. also disclose that the first positioning marks are formed in the same layer as a layer in which the transparent electrodes are formed (see Fig. 4A, item 15A; column 2, lines 41-46,

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because the alignment mark includes ITO and the bus electrode, the alignment mark is formed on the same layer (item 15) as the transparent electrode (Fig. 1, item 16)), whereas the second positioning marks are formed in the same layer as a layer in which the partition walls are formed (see Fig. 4B, item 11A; column 2, lines 55-63, the alignment mark pattern 12A is formed in the layer (item 13) which the barrier rib (item 14) is formed on).

10. Regarding claim 6, Maeda et al. disclose a display panel according to claim 1. The examiner notes that the limitation of the first positioning marks are formed at the same step as a step of forming the first partition walls, whereas the second positioning marks are formed at the same step as a step of forming the second partition walls is a product-by process-claim. A comparison of the recited process with the prior art processes doe NOT serve to resolve the issue concerning patentability of the product. *In re Fessman*, 489 F2d 742, 180 USPQ 324 (CCPA 1974). Whether a product is patentable depends on whether it is known in the art or it is obvious, and is not governed by whether the process by which it is made is patentable. *In re Klug*, 333 F2d 905, 142 USPQ 161 (CCPA 1964). In an ex parte case, product-by-process claims are not construed as being limited to the product formed by the specific process recited. *In re Hirao et al.*, 535 F2d 67, 190 USPQ 15, see footnote 3 (CCPA 1976).

11. Regarding claim 15, Maeda et al. disclose a method of producing a display panel comprising: putting a first substrate and a second substrate on top of each other (column 1, line 67; column 2, lines 1-4; the two substrates must be on top of one another for alignment; column 4, lines 10-11) the first substrate being formed with transparent display electrodes (column 4, lines 25-30), which is capable of forming display cells within a display area, the second substrate being formed with partition walls (column 5, lines 46-52), which is capable of forming sections

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of the display cells within the display area; and forming pairs of first positioning marks (column 4, lines 25-30) and second positioning marks (column 5, lines 39-42), which is capable of verifying the positioning of the transparent electrodes and the partition walls in at least two or more positions outside the display areas of the first substrate and the second substrate (see Fig. 10, item 16A; see Fig. 12, item 12A) before the step of putting the substrates on top of each other (column 1, line 1, lines 50-52), wherein proper positioning of the transparent electrodes and the partition walls is verified when combinations of the pairs of the first positioning marks and the second positioning marks form predetermined figures (see Fig. 10, item 16A; see Fig. 12, item 12A; the predetermined figures formed by the alignment marks are rectangles).

12. Regarding claim 16, Maeda et al. disclose a method of producing a display panel according to claim 15 further comprising: individually measuring the coordinates of the positions of the first positioning marks and the second positioning marks (column 6, lines 12-15) before the step of putting the substrates on top of each other (column 7, lines 53-57) and relatively moving the first substrate and the second substrate so that deviation in position corresponding to the coordinates thus measured is adjusted (column 1, line 67; column 2, lines 1-4, lines 23-25).

13. Regarding claim 21, Maeda et al. disclose a display panel including: a first substrate for forming display cells within a display area (see Fig. 1, item 15; column 1, lines 34-36), wherein a first positioning mark is disposed on the first substrate (see Fig. 10, item 16 A; column 7, lines 30-34), a second substrate for forming the display cells within the display area (see Fig. 1, item 11; column 1, lines 16-18), wherein the second substrate is disposed opposite to the first substrate (see Fig. 1, items 11 and 15) and wherein a second positioning mark is formed on the second substrate (see Fig. 12, item 12A; column 8, lines 58-61); wherein, when the first substrate

and the second substrate are properly positioned, a combination of the first positioning mark and the second positioning mark forms a predetermined figure (see Fig. 10, item 16A; see Fig. 12, item 12A). The positioning marks for a predetermined figure of a rectangular viewing area, as seen in figures 10 and 12.

14. Regarding claim 22, Maeda et al. disclose the display panel as claimed in claim 21, wherein the first positioning mark is formed outside the display area of the first substrate, and wherein the second positioning mark is formed outside the display area of the second substrate (see Fig. 10, items 16A and 160; column 8, lines 15-22; see Fig. 12, items 12A and 14; column 8, lines 58-61).

15. Regarding claim 23, Maeda et al. disclose the display panel claimed in claim 21, wherein the first substrate comprises transparent electrodes (see Fig. 1, item 16; column 1, lines 34-36) capable of forming display cells within the display area, and wherein the second substrate comprises partitioning walls (see Fig. 1, item 14; column 1, lines 24-32) capable of sectioning the display cells within the display area.

16. Regarding claims 25 and 27, Maeda et al. disclose the display panel claimed in claims 21 and 23. Maeda et al. further disclose that the first positioning mark and the second positioning mark do not necessarily overlap each other when the first substrate and the second substrate are properly positioned (column 8, lines 15-23). Since the first positioning marks can be formed anywhere on the glass substrate not necessarily at the corners, the examiner interprets this to mean that a different positioning technique, other than direct vertical alignment of the positioning marks, can be employed for aligning the substrates.

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17. Regarding claim 28, Maeda et al. disclose a display panel according to claim 23, wherein the first positioning mark is formed in the same layer in which the transparent electrodes are formed (see Fig. 4A, item 15A; column 2, lines 41-46, because the alignment mark includes ITO and the bus electrode, the alignment mark is formed on the same layer (item 15) as the transparent electrode (Fig. 1, item 16)).

18. Regarding claim 29, Maeda et al. disclose a display panel according to claim 23, wherein the second positioning mark is formed in the same layer as a layer in which the partition wall is formed (see Fig. 4B, item 11A; column 2, lines 55-63, the alignment mark pattern 12A is formed in the layer (item 13) which the barrier rib (item 14) is formed on).

19. Regarding claim 30, Maeda et al. disclose a display panel according to claim 23, wherein the first positioning mark is formed of the same material as the material of the transparent electrodes (column 2, lines 41-46; column 7, lines 30-34).

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 7 and 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (U.S. 5,876,884).

22. Regarding claim 7, Maeda et al. disclose a display panel including: a first substrate (see Fig. 1, item 15; column 1, lines 34-36) with transparent display electrodes (see Fig. 1, item 16;

column 1, lines 34-36) disposed for forming display cells within a display area; a second substrate (see Fig. 1, item 11; column 1, lines 16-16-18) disposed separately from and opposite to the first substrate (see Fig. 1, items 11 and 15) and formed with partition walls for forming sections of the display cells within the display area (see Fig. 1, item 14; column 1, lines 24-32); a first positioning mark disposed in at least two or more positions outside the display area of the first substrate (see Fig. 10, item 16 A; column 7, lines 30-34); a second positioning mark disposed in at least two or more positions outside the display area of the second substrate (see Fig. 12, item 12A; column 8, lines 58-61), wherein the first positioning marks and the second positioning marks are disposed so that the positional relation between the transparent electrodes and the partition walls can directly be recognized (column 1, lines 62-67; column 2, lines 1-6). Maeda et al. also teach that the first positioning marks are formed of the same material as the material of the transparent electrodes (column 2, lines 41-46; column 7, lines 30-34). Maeda et al. disclose the claimed invention except for the second positioning marks formed of the same material as the barrier ribs. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the second positioning marks from the same material as the partition walls, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the flat panel display of Maeda et al. to use the same material for the second positioning mark and the partition walls, which has been shown to be of a matter of obvious design choice.

23. Regarding claim 31, Maeda et al. disclose a display panel according to claim 23 but fail to teach that for the second positioning marks formed of the same material as the barrier ribs. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the second positioning marks from the same material as the partition walls, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the flat panel display of Maeda et al. to use the same material for the second positioning mark and the partition walls, which has been shown to be of a matter of obvious design choice.

24. Claims 8, 9, 12-14, 17, 18, 32, and 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (U.S. 5,876,884) in view of Bergeron et al. (U.S. 5,897,414).

25. Regarding claim 8, Maeda et al. disclose a display panel comprising: a first substrate (see Fig. 1, item 15; column 1, lines 34-36) a second substrate (see Fig. 1, item 11; column 1, lines 16-18) disposed separately from and opposite to the first substrate (see Fig. 1, items 11 and 15) with partition walls disposed for forming sections of the display cells in the at least first direction within a display area (see Fig. 1, item 14; column 1, lines 24-32); a first positioning mark disposed in at least two or more positions outside the display area of the first substrate (see Fig. 10, item 16 A; column 7, lines 30-34); and a second positioning mark disposed in at least two or more positions outside the display area of the second substrate (see Fig. 12, item 12A; column 8,

lines 58-61), wherein the first positioning marks and the second positioning marks are disposed so that the positional relation between the first partition walls and the second partition walls can directly be recognized (column 1, lines 62-67; column 2, lines 1-6). The alignment marks are capable of positioning the substrates, and the electrodes and barrier ribs. Maeda et al. fail to disclose partition walls on the first substrate.

Bergeron et al. disclose a display device comprising first partition walls disposed from the first substrate, and partition walls disposed from the second substrate (see Fig. 2b, items 50 and 78). Bergeron et al. further disclose that the walls coming off of each respective substrate enable the display to withstand external forces.

Therefore, it would have been obvious to one having ordinary skill in the art of display panels, at the time the invention was made, to modify the display panel of Maeda et al. to include spacers on both substrates for the benefits of resistance to external forces.

26. Regarding claim 9, Maeda et al. and Bergeron et al. disclose a display panel according to claim 8. Maeda et al. further disclose that the first positioning mark and the second positioning mark are disposed respectively at four corner positions of the first substrate and the second substrate in a manner opposite to each other (see Fig. 10, item 16A; see Fig. 12, item 12A).

27. Regarding claim 12, Maeda et al. disclose a display panel including: a first substrate (see Fig. 1, item 15; column 1, lines 34-36); a second substrate (see Fig. 1, item 11; column 1, lines 16-18) separately from and opposite to the first substrate (see Fig. 1, items 11 and 15) with second partition walls disposed for forming sections of the display cells in the at least first direction within a display area (see Fig. 1, item 14; column 1, lines 24-32); a first positioning mark disposed in at least two or more positions outside the display area of the first substrate (see

Fig. 10, item 16 A; column 7, lines 30-34); and a second positioning mark disposed in at least two or more positions outside the display area of the second substrate (see Fig. 12, item 12A; column 8, lines 58-61), wherein the first positioning marks and the second positioning marks are disposed so that the positional relation between the first partition walls and the second partition walls can directly be recognized (column 1, lines 62-67; column 2, lines 1-6). The alignment marks are capable of positioning the substrates, and the electrodes and barrier ribs. The second positioning marks are formed in the same layer as a layer in which the second partition walls are formed (see Fig. 4B, item 11A; column 2, lines 55-63, the alignment mark pattern 12A is formed in the layer (item 13) which the barrier rib (item 14) is formed on). Maeda et al. fail to disclose partition walls on the first substrate, and that the first position marks are formed in the same layer of the partition walls. Maeda et al. do disclose that the second partition marks are formed on the same layer the partition walls are formed on, and it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Bergeron et al. disclose a display device comprising first partition walls disposed from the first substrate, and partition walls disposed from the second substrate (see Fig. 2b, items 50 and 78). Bergeron et al. further disclose that the walls coming off of each respective substrate enable the display to withstand external forces.

Therefore, it would have been obvious to one having ordinary skill in the art of display panels, at the time the invention was made, to modify the display panel of Maeda et al. to include spacers on both substrates for the benefits of resistance to external forces.

28. Regarding claim 13, Maeda et al. disclose a display panel according to claim 8. The examiner notes that the limitation of the first positioning marks are formed at the same step as a step of forming the first partition walls, whereas the second positioning marks are formed at the same step as a step of forming the second partition walls is a product-by process-claim. A comparison of the recited process with the prior art processes doe NOT serve to resolve the issue concerning patentability of the product. *In re Fessman*, 489 F2d 742, 180 USPQ 324 (CCPA 1974). Whether a product is patentable depends on whether it is known in the art or it is obvious, and is not governed by whether the process by which it is made is patentable. *In re Klug*, 333 F2d 905, 142 USPQ 161 (CCPA 1964). In an ex parte case, product-by-process claims are not construed as being limited to the product formed by the specific process recited. *In re Hirao et al.*, 535 F2d 67, 190 USPQ 15, see footnote 3 (CCPA 1976).

29. Regarding claim 14, Maeda et al. disclose a display panel comprising: a first substrate (see Fig. 1, item 15; column 1, lines 34-36) a second substrate (see Fig. 1, item 11; column 1, lines 16-18) disposed separately from and opposite to the first substrate (see Fig. 1, items 11 and 15) with partition walls disposed for forming sections of the display cells in the at least first direction within a display area (see Fig. 1, item 14; column 1, lines 24-32); a first positioning mark disposed in at least two or more positions outside the display area of the first substrate (see Fig. 10, item 16 A; column 7, lines 30-34); and a second positioning mark disposed in at least two or more positions outside the display area of the second substrate (see Fig. 12, item 12A; column 8, lines 58-61), wherein the first positioning marks and the second positioning marks are disposed so that the positional relation between the first partition walls and the second partition walls can directly be recognized (column 1, lines 62-67; column 2, lines 1-6). The alignment

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marks are capable of positioning the substrates, and the electrodes and barrier ribs. Maeda et al. fail to disclose partition walls on the first substrate, and Maeda et al. do not teach that the first positioning marks are formed of the same material as the material of the first partition walls, whereas the second positioning marks are formed of the same material as the material of the second partition walls. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the second positioning marks from the same material as the partition walls, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Bergeron et al. disclose a display device comprising first partition walls disposed from the first substrate, and partition walls disposed from the second substrate (see Fig. 2b, items 50 and 78). Bergeron et al. further disclose that the walls coming off of each respective substrate enable the display to withstand external forces.

Therefore, it would have been obvious to one having ordinary skill in the art of display panels, at the time the invention was made, to modify the display panel of Maeda et al. to include spacers on both substrates for the benefits of resistance to external forces.

30. Regarding claim 17, Maeda et al. disclose a method of producing a display panel comprising: putting a first substrate and a second substrate on top of each other (column 1, line 67; column 2, lines 1-4; the two substrates must be on top of one another for alignment; column 4, lines 10-11), a first substrate (see Fig. 1, item 15; column 1, lines 34-36), the second substrate being formed with second partition walls disposed for forming sections of the display cells within the display area (see Fig. 1, item 14; column 1, lines 24-32); and forming pairs of first

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positioning marks (column 4, lines 25-30) and second positioning marks (column 5, lines 39-42) capable of verifying the positioning of the first partition walls and the second partition walls in at least two positions outside the display areas of the first substrate and the second substrate (see Fig. 10, item 16A; see Fig. 12, item 12A) before the step of putting the substrates on top of each other (column 1, lines 50-52), wherein proper positioning of the first substrate and the second substrate is capable of being verified (column 1, line 67; column 2, lines 1-4) when combinations of the pairs of the first positioning marks and the second positioning marks form predetermined figures (see Figs. 10 and 12, the rectangular figures formed by the alignment marks).

Bergeron et al. disclose a display device comprising first partition walls disposed from the first substrate, and partition walls disposed from the second substrate (see Fig. 2b, items 50 and 78). Bergeron et al. further disclose that the walls coming off of each respective substrate enable the display to withstand external forces.

Therefore, it would have been obvious to one having ordinary skill in the art of display panels, at the time the invention was made, to modify the display panel of Maeda et al. to include spacers on both substrates for the benefits of resistance to external forces.

31. Regarding claim 18, Maeda et al. and Bergeron et al. disclose a method of producing a display panel according to claim 17 further comprising. Maeda et al. further disclose individually measuring the coordinates of the positions of the first positioning marks (column 6, lines 12-15) and the second positioning marks before the step of putting the substrates on top of each other (column 7, lines 53-57) and relatively moving the first substrate and the second

substrate so that deviation in position corresponding to the coordinates thus measured is adjusted (column 1, line 67; column 2, lines 1-4, lines 23-25).

32. Regarding claim 32, Maeda et al. disclose the display panel as claimed in claim 21. Maeda et al. further disclose a second substrate including partitioning walls for sectioning the display cells within the display area (see Fig. 1, item 14; column 1, lines 24-32). Maeda et al. fail to disclose the first substrate including partition walls capable of sectioning transparent display electrodes capable of forming display cells within the display area.

Bergeron et al. disclose a display device comprising first partition walls disposed from the first substrate, and partition walls disposed from the second substrate (see Fig. 2b, items 50 and 78). Bergeron et al. further disclose that the walls coming off of each respective substrate enable the display to withstand external forces.

Therefore, it would have been obvious to one having ordinary skill in the art of display panels, at the time the invention was made, to modify the display panel of Maeda et al. to include spacers on both substrates for the benefits of resistance to external forces.

33. Regarding claim 34, Maeda et al. and Bergeron et al. disclose a display panel according to claim 32. Maeda et al. further disclose that the first positioning mark and the second positioning mark do not necessarily overlap each other when the first substrate and the second substrate are properly positioned (column 8, lines 15-23). Since the first positioning marks can be formed anywhere on the class substrate not necessarily at the corners, the examiner interprets this to mean that a different positioning technique, other than direct vertical alignment of the positioning marks, can be employed for aligning the substrates.

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34. Regarding claim 35, Maeda et al. and Bergeron et al. disclose a display panel according to claim 32. Maeda et al. further disclose that the first positioning mark is formed in the same layer as a layer in which the first partition walls are formed (see Fig. 4A, item 15A; column 2, lines 41-46, because the alignment mark includes ITO and the bus electrode, the alignment mark is formed on the same layer (item 15) as the transparent electrode (Fig. 1, item 16)). Although, Maeda et al. does not disclose first partition walls on the first substrate Maeda et al. do disclose that the positioning mark on the second substrate with partition walls is formed in the same layer as a layer in which the second partition walls are formed, and therefore forming first positioning marks in the same layer as first positioning walls on the first substrate would have been obvious to one of ordinary skill in the art, at the time the invention was made.

35. Regarding claim 36, Maeda et al. and Bergeron et al. disclose a display panel according to claim 32. Maeda et al. further disclose that the second positioning mark is formed in the same layer as a layer in which the second partition walls are formed (see Fig. 4B, item 11A; column 2, lines 55-63, the alignment mark pattern 12A is formed in the layer (item 13) which the barrier rib (item 14) is formed on).

36. Regarding claims 37 and 38, Maeda et al. and Bergeron et al. disclose a display panel according to claim 32. Neither Maeda et al. nor Bergeron et al. teach that the first or second positioning mark is formed of the same material as the first and second partition walls, respectively. However, it would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the second positioning marks from the same material as the partition walls, since it has been held to be within the general skill of a worker in the art to select

a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Response to Applicant's Amendments

37. Regarding the amendment to claims 4 and 11, the examiner notes that the amendment to these claims does not distinctly point out or claim the invention.

38. Regarding claims 1-18 of the previous rejection, in light of the amendments to the independent claims, the examiner enters new art for the rejection.

Pertinent Prior Art

39. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nishigaki et al. (U.S. 5,209,688) are pertinent prior art in the field of flat panel displays.

Morimoto et al. (U.S. 4,262,741) are pertinent prior art in the field of flat panel displays with holes used for positioning the top and bottom substrate on top of one another.

Sugimoto et al. (U.S. 5,77,610) are pertinent prior art in the field of flat panel displays with positioning marks.

Contact Information

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Canning whose telephone number is (571)-272-2486.

The examiner can normally be reached on M-F 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D. Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Canning *ac*

18 May 2005

Ashok Patel
ASHOK PATEL
PRIMARY EXAMINER